

GNEISS-DOME STRUCTURE (CERRO LA RIBULIA) AND DEFORMATIONS AT TANDIL AREA, SIERRAS SEPTENTRIONALES DE BUENOS AIRES, ARGENTINA

María A. Dalmasso*, Eduardo A. Rossello* **, Víctor Ramos*

**Departamento de Ciencias Geológicas, Universidad de Buenos Aires. Pabellón II, Ciudad Universitaria (1428) Buenos Aires, Argentina.*

** CONICET*

In the crystalline Precambrian basement of Sierras Septentrionales of Buenos Aires, we have differentiated 4 main tectonic events (compressive and extensive) on crucial outcrops of Cerro La Ribulia and neighbouring areas located SE of Tandil city.

i) The first one, is a gneiss-dome structure present in the gneissitic host rocks at Cerro La Ribulia that can be related with the intrusion of the granitic body of Cerro Albión. After this structure we have interpreted a primary diapiric mechanism related to the emplacement of the oldest eruptive rocks (2,100 Ma) in a deep crustal environment. The structure is characterized by a large dome subparallel to the present surface, cropping out in about 2 km² with local hectometric fold axis trending WNW-ESE. This structure could be associated with the vertical stretching lineation.

ii) The second event is represented by ductile shear zones and vertical cleavage striking N 140°/160°, and N 90°/100° the latter, with a subordinate left-lateral wrench component of displacement (lineation plunging 12° SE). They are overprinted on the magmatic structures and were produced by a ductile flattening during a Brasilian convergence (800 Ma), with NNE direction.

iii) Rhyolitic rocks intruded into the granitic rocks in decametric belts subparallel to the main structures are not deformed and they are related to an extensive tectonic setting.

iv) Finally, dikes of basaltic composition traverse all the oldest eruptive rocks. These rocks may be related to joints striking N 80° to 100°, with apparent left-lateral component of displacement into a brittle tectonic environment.